栽培介質與植物健康管理

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摘　要

栽培介質與土壤相類似可提供 4 項功能讓溫室作物生長，包括：(1)提供氣體交換(氧氣及二氧化碳)，(2)保持水分供植物利用，(3)提供礦物養分儲存空間，(4)支持作物生長。成功的生產溫室作物必需在調配或選用栽培介質原料做到可以控制與預測其性質。栽培介質原料的粒徑大小、材質特性、調配比例等決定了介質的物理性，包括：密度、孔隙度、通氣、透水性與保水性。一般栽培介質只提供少量的養分，因此外加的養分、調整介質酸度是必要的，闊葉樹樹皮介質含有大量的錳在栽培過程釋出，導致錳敏感作物缺鐵或錳毒害需要額外加入鐵劑。另有些介質會累積鹽分，栽培一段時間或再利用時需要洗鹽措施。栽培盆的大小、高度及形狀也會影響介質的水分與通氣性狀。

關鍵詞：栽培介質物理性、栽培介質化學性、栽培原料性質

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Abstruct

As like soils, growth media used to produce greenhouse crops provide 4 functions, including: (1) allow gas exchange, (2) hold water that is available to the plants, (3) create a reservoir of mineral nutrients, (4) support plant stand. Successful production of greenhouse crops requires that growth media is formulated from ingredients with controlled and predictable properties. Inadequate physical properties of media cannot be corrected during production of the crop that will cause the production failure or increasing cost of management. Particle size, properties of materials and the mixed ratio of ingredients will affect the physical properties of growth media, i.e. bulk density, porosity, aeration, water retention and percolation. Most of growth media provide few nutrients for crops growth, extra supplying nutrients, adjusting acidity for crop are necessary. Hardwood barks release high amount of manganese which affects on manganese-sensitive plants uptaking irons or being toxicity, addition of iron sulfate to the media is corrected the problem. Some media will accumulate salts after a long time growing crops or reusing the media, leaching extra salts process is needed. Media containers' size, shape and height also affect the water and air status of media.

Key words: Growth media physical properties, growth media chemical properties, properties of material